

REMARKS

Claims 1 through 7 and 10 through 16 are pending in this Application, of which claims 11 through 14 stand withdrawn from consideration pursuant to the provisions of 37 C.F.R. § 1.142(b). Accordingly, claims 1 through 7, 10, 15 and 16 are active.

Claims 1 and 7 have been amended, claims 8 and 9 cancelled, and new claims 15 and 16 added. Care has been exercised to avoid the introduction of new matter. Indeed, adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure, as, for example, the second embodiment discussed at page 11 of the written description of the specification, lines 7 *et seq.* noting that the limitations of claims 8 and 9 have been incorporated into claim 7. Applicants submit that the present Amendment does not generate any new matter issue.

Claims 7 and 8 were rejected under 35 U.S.C. § 102 for lack of novelty as evidenced by Tripp et al.

This rejection is traversed. Indeed, this rejection has been rendered moot by incorporating the limitations of claims 8 and 9 into claim 7, claim 9 not being subject to this rejection. Accordingly, withdrawal of the rejection of claim 7 is solicited.

Claim 7 was rejected under 35 U.S.C. § 102 for lack of novelty as evidenced by Omori et al.

This rejection is traversed. Indeed, this rejection has also been rendered moot by incorporating the limitations of claims 8 and 9 into claim 7, claims 8 and 9 not being subject to this rejection. Accordingly, withdrawal of the rejection of claim 7 is solicited.

Claims 1 through 6 were rejected under 35 U.S.C. § 103 for obviousness predicated upon Omori et al. in view of Masuda et al.

In the statement of the rejection the Examiner asserted but did not identify wherein Omori et al. disclose a solid electrolytic capacitor comprising a lead of niobium, a niobium nitride layer thereon and a dielectric layer of niobium oxide formed on the niobium nitride layer. The Examiner then concluded that one having ordinary skill in the art would have been motivated to modify the capacitor disclosed by Omori et al. by employing the substrate and a lead disclosed by Masuda et al. with a sintered layer thereon. This rejection is traversed.

Initially, Applicants note that the Examiner's reliance upon and application of Omori et al., which is not in the English language, is improper as repeatedly held by the Board of Patent Appeals and Interferences. *Ex parte Bonfils*, 64 USPQ2d 1456 (BPAI 2003); *Ex parte Gavin*, 62 USPQ2d 1680 (BPAI 2001); *Ex parte Jones*, 62 USPQ2d 1206 (BPAI 2001).

Further, the Examiner's interpretation and application of the applied prior art is not viable. Specifically, the capacitor defined in independent claim 1 comprises a substrate which is composed of a porous sinter of niobium particles. Since the substrate is composed of a porous sinter of niobium particles it does not include a lead. But what Omori et al. disclose is an anode structure which includes a lead composed of niobium and a sinter composed of niobium nitride capsuling a part of the lead. Again, the substrate of the claimed solid electrolytic capacitor is composed of a porous sinter of niobium particles which exclude a lead. Thus, the claimed structure is clearly different from that disclosed by Omori et al.

The additional reference to Masuda et al. does not cure the above-argued deficiencies in the teachings of Omori et al. Specifically, Masuda et al. disclose a positive electrode body which is fabricated by forming and sintering a powder embedded with a positive electrode lead in the form of

a film. Since the substrate of the claimed solid electrolytic capacitor is composed of a porous sinter of niobium particles exclusive of a lead, the claimed structure also is significantly different from that disclosed by Masuda et al.

Moreover, it is not apparent wherein Masuda et al. disclose or suggest any anode which is doped with nitrogen, or any anode having a niobium nitride layer on a surface thereof.

Based upon the foregoing it should be apparent that even if the applied references are combined as suggested by the Examiner, and Applicants do not agree that the requisite fact-based motivation has been established, the claimed invention would not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

Applicants separately argue the patentability of claims 3, 4, 5 and 6. In this respect Applicants would stress the Examiner did not factually establish that the nitrogen content, particularly as recited in claims 5 and 6, is an art-recognized result effective variable. This being the case, it is legally erroneous to conclude that one having ordinary skill in the art would have been motivated to somehow optimize the nitrogen content, which has not been factually established to be an art-recognized result effective variable. *In re Rijckaert*, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); *In re Yates*, 663 F.2d 1054, 211 USPQ 1149 (CCPA 1981); *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

Applicants stress the Examiner committed legal error by failing to give due consideration to the objective evidence of nonobviousness in the specification which demonstrates that substantially superior results are obtained by virtue of the strategic selection of the nitrogen content, as claimed. *In re Soni*, 54 F.3d 746, 34 USPQ2d 1685 (Fed. Cir. 1995); *In re Margolis*, 785 F.2d 1029, 228 USPQ 940 (Fed. Cir. 1986).

Based upon the foregoing it is apparent that a *prima facie* basis to deny patentability to the claimed invention has not been established. Moreover, upon giving due consideration to the evidence of non-obviousness in the specification, the conclusion appears inescapable that one having ordinary skill in the art would **not** have found the claimed subject matter **as a whole** obvious within the meaning of 35 U.S.C. § 103.

Applicants, therefore, submit that the imposed rejection of claims 1 through 6 under 35 U.S.C. § 103 for obviousness predicated upon Omori et al. in view of Masuda et al. is not factually or legally viable and, hence, solicit withdrawal thereof.

Claims 9 and 10 were rejected under 35 U.S.C. § 103 for obviousness predicated upon Omori et al.

In the statement of the rejection the Examiner asserted that one having ordinary skill in the art would have been motivated to optimize the nitrogen content. This rejection is traversed.

Initially, the Examiner's failure to provide a complete English language translation of Omori et al. and to specifically identify wherein Omori et al. disclose a niobium nitride layer is improper. *Ex parte Bonfils, supra; Ex parte Gavin, supra; Ex parte Jones, supra.*

Further, the Examiner did not identify wherein Omori et al. disclose or suggest that the nitrogen content is an art-recognized result effective variable. Absent any such factual basis, it is legally erroneous to conclude that one having ordinary skill in the art would have been motivated to optimize the nitrogen content. *In re Rijckaert, supra; In re Yates, supra; In re Antonie, supra.*

The Examiner also committed legal error by failing to give due consideration to the objective evidence of nonobviousness in the specification, which demonstrates the significance of

the nitrogen limitations recited in claims 9 and 10, noting that the limitations of claim 9 have been incorporated into claim 7. *In re Soni, supra; In re Margolis, supra.*

Based upon the foregoing, Applicants submit that the imposed rejection of claims 9 and 10 under 35 U.S.C. § 103 for obviousness predicated upon Omori et al. is not factually or legally viable and, hence, solicit withdrawal thereof.

New claims 15 and 16

New claims 15 and 16 are clearly free of the applied prior art. In this respect, Applicants would note that claim 15 is similar to a combination of claims 1 and 2. In accordance with claim 15, the anode of the solid electrolytic capacitor has a substrate which is composed of niobium and a niobium layer formed thereon. The substrate does not include any lead.

Claim 16 is directed to a solid electrolytic capacitor having a substrate which is composed of niobium and, hence, does not contain any lead. Moreover, a niobium nitride layer is formed to solidly cover the surface of the niobium substrate without producing any clearance, resulting from heat treatment in a nitrogen atmosphere. This feature is significant because the surface of the niobium substrate is covered with a niobium nitride layer in the anode and, hence, a dielectric layer formed by oxidation of the anode is not formed directly on the niobium substrate. In this way, oxygen from the dielectric layer (niobium oxide) is prevented from diffusing into the niobium substrate.

The features of claims 15 and 16, particularly those set forth above, are neither disclosed nor suggested in the applied prior art. As previously pointed out, the substrate of the claimed capacitors does not include a lead, as in the case of Omori et al. and Masuda et al. Moreover, in Omori et al., the niobium nitride on the niobium lead is made by molding and sintering niobium nitride particles,

thereby producing a clearance. Such a clearance undesirably causes the dielectric layer and cathode to be directly formed on the niobium surface resulting in oxygen diffusion, unlike in the present invention. Thus, claims 15 and 16 are clearly free of the applied prior art.

Based upon the foregoing it should be apparent that the imposed rejections have been overcome and that all active claims are in condition for immediate allowance. Favorable consideration is, therefore, solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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